DOCKET NO: C1037.70048US00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Krieg et al.
Serial No:	10/644,052
Confirmation No:	unknown
Filed:	August 19, 2003
For:	IMMUNOSTIMULATORY NUCLEIC ACIDS
Examiner:	unknown
Art Unit:	unknown

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 15th day of March, 2004.

Alan W. Steele, M.D., Ph.D., Reg. No. 45,128

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Sir:

Transmitted herewith are the following documents:

[X] Information Disclosure Statement
[X] PTO Form 1449 with cited references
[X] Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 720-3500, Boston, Massachusetts.

A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.

Respectfully submitted,
Krieg et al., Applicant

By: _____
Alan W. Steele, M.D., Ph.D., Reg. No. 45,128
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2211
Telephone: (617) 720-3500

Docket No. C1037.70048US00
Date: March 15, 2004
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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 C.F.R. §§ 1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

PART II: Information Cited

A. The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

B. The Applicant hereby makes the following additional information of record in the above-identified application.

The Applicant would like to bring to the Examiner's attention the following co-pending applications (copies enclosed) that may contain subject matter related to this application:

Docket No.	Serial No.	Filing Date	Inventor(s)
C1037.70016US00	09/009,634	01-20-1998	Hutcherson et al.
C1041.70002US00	09/241,653	02-02-1999	Wagner et al.
C1040.70006US00	09/316,199	05-21-1999	McCluskie et al.
C1039.70020US00	09/337,584	06-21-1999	Krieg et al.
C1039.70022US00	09/337,893	06-21-1999	Krieg
C1041.70005US00	09/355,254	02-22-2000	Wagner et al.
C1039.70036US00	09/559,140	04-27-2000	Noll et al.
C1039.70043US00	09/629,477	07-31-2000	Krieg et al.
C1039.70042US00	09/630,319	07-31-2000	Krieg et al.
C1039.70041US00	09/655,319	09-05-2000	Krieg et al.
C1039.70035US00	09/669,187	09-25-2000	Krieg et al.
C1039.70044US00	09/672,126	09-27-2000	Hartmann et al.
C1041.70010US00	09/786,436	03-02-2001	Wagner et al.
C1039.70057US00	09/965,101	09-26-2001	Davis et al.
C1039.70062US00	10/187,489	07-02-2002	Krieg et al.
C1039.70069US00	10/314,578	12-09-2002	Krieg et al.
C1041.70035US00	10/373,381	02-25-2003	Wagner et al.
C1039.70070US00	10/382,822	03-06-2003	Krieg et al.
C1039.70072US00	10/434,696	05-09-2003	Davis et al.
C1039.70071US00	10/435,656	05-09-2003	Krieg et al.
C1037.70045US00	10/613,228	07-03-2003	Krieg
C1037.70042US00	10/613,524	07-03-2003	Krieg
C1037.70044US00	10/613,736	07-03-2003	Krieg
C1037.70043US00	10/613,739	07-03-2003	Krieg
C1037.70041US00	10/613,749	07-03-2003	Krieg
C1039.70075US00	10/613,916	07-03-2003	Krieg et al.
C1039.70077US00	10/619,279	07-14-2003	Krieg

Docket No.	Serial No.	Filing Date	Inventor(s)
C1039.70078US00	10/627,331	07-25-2003	Krieg et al.
C1039.70079US00	10/627,413	07-25-2003	Krieg et al.
C1039.70082US00	10/631,676	07-30-2003	Krieg et al.
C1037.70049US00	10/643,141	08-18-2003	Hutcherson et al.
C1037.70048US00	10/644,052	08-19-2003	Jurk et al.
C1039.70084US00	10/649,584	08-25-2003	Krieg et al.
C1037.70051US00	10/666,733	09-19-2003	Bratzler et al.
C1041.70040US00	10/666,844	09-19-2003	Lipford et al.
C1037.70052US00	10/668,050	09-22-2003	Bratzler et al.
C1039.70083US00	10/690,495	10-21-2003	Krieg et al.
C1039.70021US01	10/719,493	11-21-2003	Krieg et al.
C1037.70038US01	10/735,592	12-11-2003	Krieg et al.
C1039.70073US00	10/743,625	12-22-2003	Krieg et al.
C1039.70048US01	10/769,282	01-30-2004	Krieg et al.
C1039.70083US01	10/769,626	01-30-2004	Krieg et al.
C1039.70083US02	10/787,737	02-26-2004	Krieg et al.
C1039.70083US03	10/788,199	02-26-2004	Krieg et al.
C1039.70083US04	10/788,191	02-26-2004	Krieg et al.
C1039.70083US05	10/789,536	02-26-2004	Krieg et al.
C1039.70083US06	10/789,051	02-26-2004	Krieg et al.
C1039.70083US07	10/789,353	02-26-2004	Krieg et al.

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;

2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;

3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. § 102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,
Krieg et al., Applicant

By: _____

Alan W. Steele, M.D., Ph.D., Reg. No. 45,128
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600 Atlantic Avenue
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Telephone: (617) 720-3500

Docket No. C1037.70048US00
Date: March 15, 2004
XxNDDxX

FORM PTO-1449/A and B (Modified)	APPLICATION NO.: 10/644,052	ATTY. DOCKET NO.: C1037.70048US00
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: August 19, 2003	CONFIRMATION NO.: unknown
	APPLICANT: Krieg et al.	
Sheet 2 of 3	GROUP ART UNIT: unknown	EXAMINER: unknown

	#A40	2003/0232074	A1	Lipford et al.	12-18-2003
	#A41	2004/0009949	A1	Krieg	01-15-2004

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
	B1	EP	0 092 574	B1	Molecular Biosystems, Inc.	04-29-1992	
	B2	WO	99/56755	A1		11-11-1999	
	B3	WO	00/06588	A1		02-10-2000	
	B4	WO	02/26757	A2	Hybridon, Inc.	04-04-2002	
	B5	WO	02/069369	A2		09-06-2002	

OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)	
	C1	BEAUCAGE SL et al., Deoxynucleoside phosporamidites — a new class of key intermediates for deoxypolynucleotide synthesis. *Tetrahedron Lett.* 1981;22:1859-62.		
	C2	COHEN PA et al., CD4+ T-cells from mice immunized to syngeneic sarcomas recognize distinct, non-shared tumor antigens. *Cancer Res.* 1994 Feb 15;54(4):1055-8.		
	C3	FROEHLER BC et al., Synthesis of DNA via deoxynucleoside H-phosphonate intermediates. *Nucleic Acids Res.* 1986 Jul 11;14(13):5399-407.		
	C4	GAFFNEY BL et al., Large-scale oligonucleotide synthesis by the H-phosphonate method. *Tetrahedron Lett.* 1988;29:2619-22.		
	C5	GAREGG PJ et al., Nucleoside H-phosphonates. III. Chemical synthesis of oligodeoxyribonucleotides by the hydrogenphosphonate method. *Tetrahedron Lett.* 1986;27:4051-4.		
	C6	GAREGG PJ et al., Nucleoside H-phosphonates. IV. Automated solid phase synthesis of oligoribonucleotides by the hydrogenphosphonate approach. *Tetrahedron Lett.* 1986;27:4055-8.		
	C7	GHOSH MK et al., Phosphorothioate-phosphodiester oligonucleotide co-polymers: assessment for antisense application. *Anticancer Drug Des.* 1993 Feb;8(1):15-32.		
	C8	GOODCHILD J, Conjugates of oligonucleotides and modified oligonucleotides: a review of their synthesis and properties. *Bioconjug Chem.* 1990 May-Jun;1(3):165-87.		
	C9	HACKER H et al., CpG-DNA-specific activation of antigen-presenting cells requires stress kinase activity and is preceded by non-specific endocytosis and endosomal maturation. *EMBO J.* 1998 Nov 2;17(21):6230-40.		
	C10	HARTMANN G et al., CpG DNA: a potent signal for growth, activation, and maturation of human dendritic cells. *Proc Natl Acad Sci U S A.* 1999 Aug 3;96(16):9305-10.		
	C11	KRIEG AM et al., CpG motifs in bacterial DNA trigger direct B-cell activation. *Nature.* 1995 Apr 6;374(6522):546-9.		
	C12	KRIEG AM et al., Oligodeoxynucleotide modifications determine the magnitude of B cell stimulation by CpG motifs. *Antisense Nucleic Acid Drug Dev.* 1996 Summer;6(2):133-9.		
	C13	LIANG H et al., Activation of human B cells by phosphorothioate oligodeoxynucleotides. *J Clin Invest.* 1996 Sep 1;98(5):1119-29.		
	C14	LIPFORD GB et al., Bacterial DNA as immune cell activator. *Trends Microbiol.* 1998 Dec;6(12):496-500.		
	C15	MANNON RB et al., Stimulation of thymocyte proliferation by phosphorothioate DNA oligonucleotides. *Cell Immunol.* 2000 Apr 10;201(1):14-21.		
	C16	MESSINA JP et al., Stimulation of in vitro murine lymphocyte proliferation by bacterial DNA. *J Immunol.* 1991 Sep 15;147(6):1759-64.		

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				APPLICANT: Krieg et al.	
Sheet	3	of	3	GROUP ART UNIT: unknown	EXAMINER: unknown

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	C18	PEYMAN A et al., Minimally modified oligonucleotides - combination of end-capping and pyrimidine-protection. *Biol Chem Hoppe Seyler.* 1996 Jan;377(1):67-70.		
	C19	PISETSKY DS, The immunologic properties of DNA. *J Immunol.* 1996 Jan 15;156(2):421-3.		
	C20	TOKUNAGA T et al., A synthetic single-stranded DNA, poly(dG,dC), induces interferon-alpha/beta and -gamma, augments natural killer activity, and suppresses tumor growth. *Jpn J Cancer Res.* 1988 Jun;79(6):682-6.		
	C21	TOKUNAGA T et al., Antitumor activity of deoxyribonucleic acid fraction from Mycobacterium bovis BCG. I. Isolation, physicochemical characterization, and antitumor activity. *J Natl Cancer Inst.* 1984 Apr;72(4):955-62.		
	C22	UHLMANN E et al., Antisense oligonucleotides: a new therapeutic principle. *Chem Rev.* 1990;90:543-84.		
	C23	WAGNER RW et al., Potent and selective inhibition of gene expression by an antisense heptanucleotide. *Nat Biotechnol.* 1996 Jul;14(7):840-4.		
	C24	YI AK et al., CpG oligodeoxyribonucleotides rescue mature spleen B cells from spontaneous apoptosis and promote cell cycle entry. *J Immunol.* 1998 Jun 15;160(12):5898-906.		
	C25	ZHAO Q et al., Comparison of cellular binding and uptake of antisense phosphodiester, phosphorothioate, and mixed phosphorothioate and methylphosphonate oligonucleotides. *Antisense Res Dev.* 1993 Spring;3(1):53-66.		
	C26	ZHAO Q et al., Effect of different chemically modified oligodeoxynucleotides on immune stimulation. *Biochem Pharmacol.* 1996 Jan 26;51(2):173-82.		
	C27	ZHAO Q et al., Site of chemical modifications in CpG containing phosphorothioate oligodeoxynucleotide modulates its immunostimulatory activity. *Bioorg Med Chem Lett.* 1999 Dec 20;9(24):3453-8.		

EXAMINER	DATE CONSIDERED

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. __ , filed __ , and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

Per OG Notice dated April 2003, pertaining to IDS's for applications filed after June 30, 2003, copy is not provided.

[NOTE - Must provide a copy of any patent, publication, other information listed, even if it was previously submitted to, or cited by, the U.S. Patent Office in an earlier application, unless the earlier application is identified by the IDS and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application.]

FORM PTO-1449/A and B (Modified)	APPLICATION NO.: 10/644,052	ATTY. DOCKET NO.: C1037.70048US00
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: August 19, 2003	CONFIRMATION NO.: unknown
	APPLICANT: Krieg et al.	
Sheet 1 of 3	GROUP ART UNIT: unknown	EXAMINER: unknown

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
	#A1	4,469,863		Ts'o et al.	09-04-1984
	#A2	5,023,243		Tullis	06-11-1991
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